CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

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This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

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1. The Severo-Donetsk (N 48-57, E 38-28) nitrogen plant was located 3 to 5 km northeast of Lisichansk (N 48-56, E 38-26), Voroshilovgrad Oblast. The plant was on the east side of Severo-Donetsk. The town and the plant were connected by a spur track to the Rubezhnoye (N 49-01, E 38-23) railroad station, located 9.6 km to the northwest on the main railroad line, and by surfaced roads with the towns of Rubezhnoye and Lisichansk.

2. The plant and the workers' settlement attached to it were formerly called Lis Khimstroy. In the spring of 1949 the name was changed to Severo-Donetsk. The settlement was to become a major industrial town. Although production at the plant began in 1948, the installation was still being enlarged in early 1951.

3. In October 1946, five German chemists from the Leuna Works and one engineer were deported to the Karpov Institute in Moscow. In July 1948, this team of specialists was transferred from Moscow to the Severo-Donetsk Plant, where they were assigned research missions. The entire organization worked in the administration building of the plant, which was located in the town of Severo-Donetsk. Since the German specialists had nothing to do with production proper, none of them ever entered the plant. They learned from Soviet employees working in the administration building that the more important installations of the plant were evacuated during the war. After the war, the plant was modernized and enlarged by the installation of dismantled equipment from the Leuna Works which included installations for ammonia synthesis and the production of nitric acid, highly concentrated nitric acid, and ammonium nitrate. Facilities for methanol and an isobutyl oil synthesis and miscellaneous minor departments for the production of aliphatic carbonic acids, plastic softeners, etc., were planned. In 1948, there was considerable talk of the establishment of a department to produce urea at a rate of 50,000 tons per year. 25X1

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25 YEAR RE-REVIEW

STATE	x	ARMY	x	NAVY	x	AIR	x	FBI		AEC		OSI Ev	x		

(Note: Washington Distribution Indicated By "X"; Field Distribution By "#".)

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4. Because the management of the Severo-Donetsk plant was not prepared to employ German specialists, they were, at first, generally assigned various odd jobs. Among others, they were to design a department capable of producing 50,000 to 60,000 tons of urea per year. When the German team said that it did not have the specialized knowledge required for such a project, the management requested that they plan an experimental plant for the production of urea from ammonia (NH_3) and carbon dioxide (CO_2). One of the chemists was ordered to draw up a list of the equipment needed for a large experimental laboratory. Between late 1948 and early 1949, the management asked the German team to determine the properties of ammonium nitrate and submit suggestions for the storage and the shipping of this agent. Research work assigned to the German experts between early 1949 and May 1950 included the production of aluminum oxide (Al_2O_3), silicic anhydride (SiO_2), catalyzers for the cracking process; propionaldehyde ($C_2H_5.CHO$) from propyl alcohol ($C_2H_5.CH_2.OH$); formaldehyde (HCHO); the manufacture of synthetic glycerine ($(CH_2OH)_2.CHOH$); mersolate (a washing agent obtained from aliphatic carbohydrates); adipic acid ($(CO_2H)_2.(CH_2)_4$) from cyclohexanol ($CH_2.(CH_2)_4.CH\ OH$); oppanol according to the Oppau procedure (a plastic obtained from polybutylene ($CH_3.CH_2.CH.CH_2$); low fatty acids from alcohols; Braunoxydkatalysator (brown oxide catalyzer, Fe_2O_3) used for the production of hydrogen and Schwarzoxydkatalysator (black oxide catalyzer, Fe_3O_4) for ammonia synthesis and procedures for the utilization of these catalyzers; reduction of aldehydes of medium molecular weights to alcohol; production of compounds of propionaldehyde ($C_2H_5.CHO$) and formaldehyde (HCHO). The German experts engaged only in theoretical research work. They were not sufficiently familiar with the subjects to which they were assigned nor were they provided with the technical literature required for modern research work. So they were forced to rely on memory and some personal notes. The result of their work was, therefore, unsatisfactory. They completed a few major studies, each totaling about 200 pages and dealing with the oxo - and synol (sic) processes, on which a number of the experts had been working at the Leuna Works. The other studies did not exceed 30 to 40 typed pages.

5. In April 1950, the German team was assigned the mission of elaborating a process for the production of engine fuels and oxidized products through the synthesis of carbon monoxide and hydrogen ($CO+H_2$) utilizing an iron catalyzer in a fluidized bed. The procedure was based on the American modification of the Fischer-Tropsch process. The establishment of an experimental plant in the factory area was intended. Preparatory work was done between May and November 1950. The projected plant was to have a throughput of 200 cu. meters of synthetic gas per hour and to include the synthetic plant proper, with preheater, synthesis furnace, contact separator, cooler, separator, oil scourer, blower conduits, instruments such as control apparatuses, valves, etc., and storage tanks, as well as the devices serving to purify the product, such as distilling equipment, extraction plant, and catalytic aftertreatment of the fuel obtained. Photostats of pertinent publications, principally American research work, were placed at the disposal of the team by Moscow libraries. The completed study consisted of two parts, each of about 180 typed pages. The first part dealt with the synthesis plant proper; the second with the further processing of the product obtained.

6. The German specialists were then assigned the mission of examining the advantages of water-gas conversion, a pressure process used for the conversion of carbon monoxide into water gas ($CO + H_2 \longrightarrow CO_2 + H_2$), over the pressureless process. At the same time, it was intended to set up a plant for water-gas conversion under pressure by means of a powdered catalyzer in a fluidized bed. The pertinent study was based mainly on reports by Soviets on the conversion of water-gas at the Leuna Works. This work, which was performed between December 1950 and May 1951, when the German team was repatriated, remained fragmentary. The fundamental problem, whether the conversion of water gas with a powdered catalyzer in a fluidized bed, either with or without pressure, was profitable, was not solved.

7. The only practical results were obtained from the research work conducted on the synthesis of a carbon monoxide and hydrogen. The work of the German team

was hampered by a lack of working rooms, assistants, and materials. For example, reports frequently had to be written on packing paper. The work was further impeded by a general distrust of the Soviets on the part of the Germans which almost excluded an exchange of ideas. The studies were accepted and then disappeared without being discussed. The Germans were restricted in their movements in the town of Severo-Donetsk.

8. The team of German specialists from the Leuna Works included chemists Dr. Ernst Paul Herold, Dr. Karl Hermann Geib, Dr. Kurt Kosterhon, Dr. Walter Schmidt, Dr. Luis Gemassmer, and Dr. Ing. Karl Bode. Prior to the spring of 1949, the Germans were given their orders by the manager of the plant, whose name was Vilesov (fnu) and Chief Engineer Gogin (fnu). Between 1948 and the spring of 1949, the superiors of the German team were Nazarov (fnu), director of the Technical Department of the plant, and his deputy Nikitenko(fnu). Between spring and fall of 1949, the team was supervised by Vostrikov (fnu), between the fall of 1949 and March 1950 by Kukushkin (fnu), and between March 1950 and May 1951 by Makarov (fnu). It was the duty of these supervisors to communicate their missions to the German experts, to discuss their work with them, and to accept the finished studies, which were typed in German. The reports were translated into Russian by Ryavich (fnu) and Baril (fnu). The German specialists had at their disposal a modest factory library, which contained Soviet literature, four American technical periodicals, and a number of fairly old German books and periodicals. The library was supervised between 1948 and May 1949 by Mrs. Nikitenko, whose husband was employed in the Technical Department. Shortly after the war, both of them worked for a time in Piesteritz. In May 1949, the wife of the plant manager, Vilesova, took over the library. The name of the Deputy Manager for Economic Affairs was Zhuk (fnu). The Personnel Department was headed by Mrs. Kravtsova (fnu). After December 1948, the Chief Engineer of the plant was Livshits (fnu), who was transferred to Severo-Donetsk from the Nitrogen Institute in Moscow. The chief of the Designing Office was Masterov (fnu), who also controlled the draftsmen's brigades headed by Yevtushenko (fnu) and Logvinenko (fnu). Power supply and all electrical installations of the plant were controlled by Ryabin (fnu). The chief of the Political Department was Sukhin (fnu).

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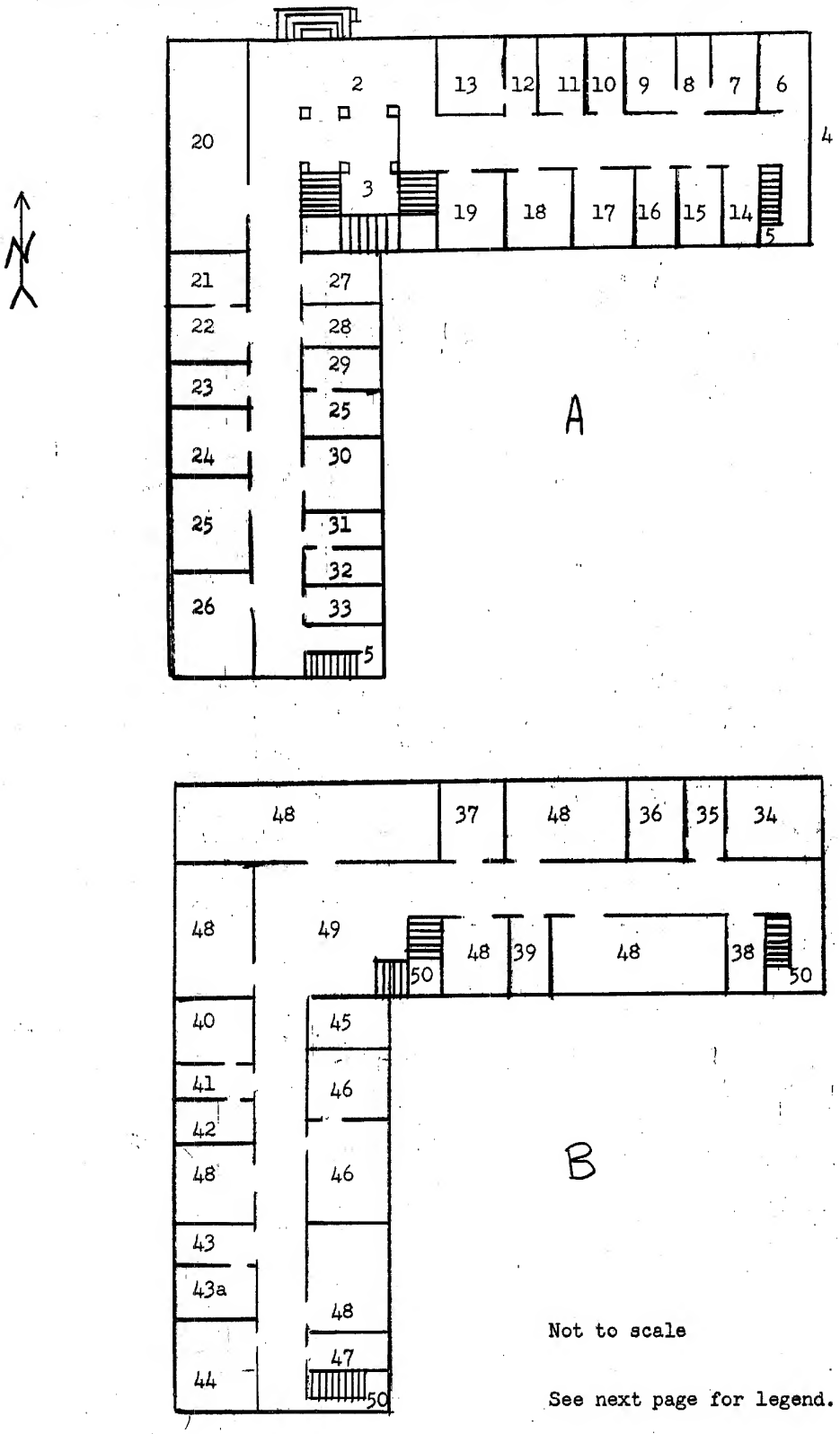
Administration Building of the Chemical Plant at Severo-Donetsk



Not to scale

See next page for legend.

Legend

A. First floor

1. Main entrance
2. Porch with columns
3. Main stairs to the second floor and the basement
4. Side entrances
5. Two side stairs to the second floor and the basement
6. Photographic laboratory
7. Library
8. Office of the librarian
9. Reading room
10. Office of the Nachalnik Otdela Truda (Chief of the Labor Section)
11. Office of the Labor Section
12. Office of the woman secretary of the Deputy Manager for Economic Affairs
13. Office of the Deputy Manager for Economic Affairs (purchasing department)
14. Lavatory
15. Office of the group Communist Youth Association (VLKSM)
16. Blueprint office
17. Personnel Department. The office of the woman director of this department was located in a building about 100 meters from the administration building.
18. Drawing room for designers of the Moscow State Institute of the Nitrogen Industry
19. Workroom of the five German specialists
20. Branch office of the Moscow Research Institute of the Nitrogen Industry
21. Office of the main bookkeeper
22. Main bookkeeping office
23. Pay office
24. Finance department
25. Two rooms, purpose undetermined
26. Records office
27. Foremen's office
28. Office of the Factory Committee
29. Office of the Chief of the Administrative Department

30. Designing Office

31. Office of the woman secretary to the Chief of the First Department

32. Office of the Chief of the First Department

33. Lavatory

B. Second floor

34. Plant manager

35. Office of the plant manager's woman secretary

36. Office of the Chief Engineer

37. Administrative and Economic Department

38. Lavatory

39. Office of the Director of the Main Department for Power Supply

40. Director of the Designing Office

41. Office of the woman secretary to the Director of the Designing Office

42. Director of the Technical Department

43. Designing Office

    a. Workroom of translator and two employees who checked the constructional drawings

44. Drawing room

45. Typing room

46. Designing Office

47. Lavatory

48. Seven rooms serving undetermined purposes

49. Hall with staircase

50. Steps

[redacted] Comment: In the original report, in at least one case the word otdel was translated as department rather than section. Probably department should be corrected to section wherever it occurs in this report. 25X1